

INTEGRATED RESOURCE PLAN (IRP)

Date: June 30, 2008

IRP's shall consider all reasonable opportunities to meet future energy resource requirements using Demand Side Management techniques, new renewable resources and other programs that will provide retail consumers with electricity at the lowest possible costs, and minimize, to the extent practicable, adverse environmental effects.

To meet your Integrated Resource Planning reporting requirement, complete the following. Unaddressed items will be deemed incomplete and not eligible for approval. Western reserves the right to require customers to provide any supporting back-up data used to support and develop this report.

Customer Contact Information:

(Provide contact information for your organization. Contact person should be able to answer questions concerning the plan)

Customer Name:	City of Redding
Address:	777 Cypress Avenue, Redding, CA 96001
Contact Person:	Pat Keener
Title:	Energy Services Manager
Phone Number:	(530) 339-7220
E-Mail Address:	pkeener@reupower.com
Website:	reupower.com

Type of Customer:

(Check one as applicable)

x	Municipal
	State
	Federal
	Irrigation District
	Water District
	Other (Specify) _____

Identification of Resource Options (considerations that may be used to develop potential options include cost, market potential, consumer preferences, environmental impacts, demand or energy impacts, implementation issues, revenue impacts, and commercial availability):

Supply-side options:

(Including, but not limited to: purchase power contracts and conventional and renewable generation)

List existing supply-side options:	List future supply-side resource options considered and evaluated:
Local Generation – Natural Gas	Purchased Power – Long term firm
Local Generation – PV	Local Generation – Natural Gas based
Purchased Power – Market	Local Generation – PV
Purchased Power – Wind based	Local Generation – Solar Thermal

Demand-side options:

List existing demand-side options:	List future demand-side resource options considered and evaluated:
High-efficiency HVAC rebates	Continuation and revisions to existing
Energy Star Appliance rebates	
Lighting rebates	
Weatherization rebates	
Pumps/motors rebates	
Thermal energy storage incentives	
Residential and Commercial Energy Audits	

Resource options chosen:

(Provide a narrative statement that describes the option chosen and clearly demonstrates that decisions were based on a reasonable analysis of the options)

REU's Energy Services Group continues to pursue and offer customers cost-effective and achievable energy efficiency measures, as measured and evaluated using the State-approved cost-effectiveness models.

As a result of Redding Electric Utility's (REU) integrated resource planning (IRP) process, a need was identified for on-going additional power supplies starting in 2011. Redding will fall below its capacity needs in the summer of 2011. In order to address this critical issue, REU staff began pursuing additional resources in 2005, which included increased emphasis on demand-side management and energy conservation programs. REU has also persistently pursued the procurement of more renewable resources. REU anticipates having over 30% of its' retail load met by California qualified renewable resources by the end of 2009. These efforts have resulted in REU obtaining long-term contracts for wind and biomass power. Also, earlier this year, construction started on Unit #6 at Redding's local natural gas fired generating station – Redding Power. The 47MW combustion turbine unit is scheduled to enter commercial service in 2010. Efforts on the demand and supply side to meet Redding's growing retail demand for electricity have been accomplished with the use of a well balanced IRP process.

Action Plan:**Specific Action Items to be implemented Over the Next 5 Years:**

(Lists are not meant to be inclusive, complete and provide other action items as applicable)

Energy Consumption Improvements:

Proposed Items	Begin Date	End Date	Est. kW capacity savings per year	Est. kWh savings per year	Milestones to evaluate accomplishments
Boiler, Furnace, air conditioning retrofits	2001	2015	300	200,000	Annual EE CEC report
Weatherization, insulation	2003	2015	175	450,000	Annual EE CEC report
Storm windows/doors					
Insulation of air ducts, boilers, pipes, etc.	2003	2015	150	250,000	Annual EE CEC report
Clock thermostats and equipment system timers	2009	2015	100	50,000	Annual EE CEC report
Heat pumps	2001	2015	125	100,000	Annual EE CEC report
Energy audits	2004	2015	n/a	n/a	Annual EE CEC report
Public education programs	2002	2015	n/a	n/a	Annual EE CEC report
Loan arrangements or rebate program for energy efficient equipment	2001	2015	Included	Included	Annual EE CEC report
Use of infrared heat detection equipment					
Energy efficient lighting	2005	2015	50	500,000	Annual EE CEC report
Equipment inspection programs	2004	2015	100	5,000	Annual EE CEC report
Electric motor replacements	2004	2015	50	10,000	Annual EE CEC report
Upgrading of distribution lines/substation equipment					
Power factor improvement					
Other: Thermal Energy Storage	2008	2015	100	5,000	

Renewable Energy Activities:

Proposed Items	Begin Date	End Date	Est. kW savings per year	Est. kWh savings per year	Milestones to evaluate accomplishments
Solar thermal/photovoltaic projects					
Day lighting technologies					
Active solar installations	2007	2027	2.5	4,000	Performs as designed
Active solar installations	2006	2026	12.5	20,000	Performs as designed
Biomass/refuse-derived fuels					
Geothermal projects					
Small-scale hydro projects					
Other:					

Load Management Techniques:

Proposed Items	Begin Date	End Date	Est. kW savings per year	Est. kWh savings per year	Milestones to evaluate accomplishments
Load management devices/systems					
Demand control techniques and equipment					
Smart meters or automated equipment					
Time-of-use meters	1995	2015	n/a	n/a	
Other:					

Rate Design Improvements:

Proposed Items	Begin Date	End Date	Est. kW savings per year	Est. kWh savings per year	Milestones to evaluate accomplishments
Cost-of-service pricing					
Elimination of declining block rates					
Time-of-day rates					
Seasonal rates					
Interruptible rates					
Other:					

Agricultural Improvements:

Proposed Items	Begin Date	End Date	Est. kW savings per year	Est. kWh savings per year	Milestones to evaluate accomplishments
Irrigation pump utilization/scheduling					
Irrigation pump testing or efficiency improvements					
Electric motor replacement					
Photovoltaic pumping systems					
Ditch lining or piping					
Laser land leveling					
Pumpback systems					
Water conservation programs					
Other:					

Environmental Effects:

(Provide a narrative statement that sets forth the efforts taken to minimize adverse environmental effects of new resource acquisitions)

The IRP process provides a supportive venue to look at the environmental impacts of new resource acquisitions. Specifically, due to the various legislative and regulatory mandates that California has enacted, utilities are required to minimize environmental

impacts of new resources. The IRP Process pulls these requirements into focus. For example, when evaluating gas turbine additions to the existing facilities. Redding used the Best Available Control Technology (BACT) criteria. Redding reviewed the various pollution control technologies and selected the SCONOX (now called EM_xTM) System. While lower overall life cycle costs were a factor, the EM_xTM system is superior to alternative technologies, in reducing further the overall environmental impact of the addition of new generating facilities at Redding Power.

Another approach to meeting customer load requirements, and at the same time reducing adverse environmental effects, is a technology approach called Thermal Energy Storage (TES). TES uses off peak power to create energy storage (either chilled water or ice) and is then used on hot afternoons to meet air conditioning requirements. By increasing the load on generating units at night (feeding power to chillers making the chilled water or ice), the generating units operate at more efficient levels, therefore reducing the amount of emissions produced. TES is a win win situation for Redding in that the TES systems not only reduce the need for new generating facilities to meet hot afternoon air conditioning requirements, but also improves the system load factor and helps Redding's nighttime loading to a more efficient and less emissions operating level. Redding has been installing TES systems since 2004 and is planning to continue to do so into the foreseeable future with this cost effective and environmentally superior technology.

Public Participation:

(Customers must provide ample opportunity for full public participation in preparing and developing an IRP. Provide a brief description of public involvement activities, including how information was gathered from the public, how public concerns were identified, how information was shared with the public, and how it responded to the public comments)

REU prepares annual reports that are presented to the City Council at public meetings that are fully noticed and accessible to everyone. In these reports, REU specifies past performance of energy efficiency and renewable resource programs, as well as plans for improving these demand-side programs to work in coordination with REU's supply-side resources, to meet our customer's energy and capacity requirements.

In the beginning of REU's energy efficiency and renewable resource programs, focus groups and brainstorming sessions were held with customers, committees and other interested parties to develop goals and objectives along with outlines of the programs that could be used to achieve these goals. Over time, as these programs have evolved and performed beyond some expectations, the need for focus groups has diminished. However, REU continues to receive input from our customers (both positive and negative) on our programs and efforts to improve efficiency in our community. REU's Energy Services Division maintains a very positive relationship with our customers by addressing each of these issues and ideas. A primary example of a customer's suggestion has been REU's increased efforts to inform the public of proper compact florescent light (CFL) disposal methods and local opportunities through the distribution of flyers, advertisements and CFL give away inserts.

Future Energy Service Projections:

(Provide a load forecast to show expected growth or expansion; or a narrative statement concerning expected future growth)

Calendar Year	Peak Demand (kW)	Total Energy (kWh)
2009	262,700	856,794,000
2010	268,700	873,352,000
2011	275,200	889,919,000
2012	282,200	906,425,000
2013	289,800	922,975,000

or Narrative Statement:

Measurement Strategies:

(Provide a brief description of measurement strategies for options identified in the IRP to determine whether the IRP's objectives are being met. These validation methods must include identification of the baseline from which a customer will measure the benefits of its IRP implementation)

REU's long-standing mission has been to deliver safe, reliable, environmentally friendly, and competitively priced energy to serve the Redding community. The best measurement of our ability to meet these goals will be the continuation of our high levels of reliability, providing this service without injury or harm to our workers or customers, and maintaining our low-cost electric service to all our customers.

Additionally, REU has incorporated into its mission the procurement and delivery to REU customer's power supplied from renewable energy sources. This is demonstrated by our contracts of wind power from the Pacific Northwest, biomass from Northern California, and continuing investment in solar power throughout the Redding Community.

As a publicly-owned utility, REU's local owners will continue to be the best measurement and gauge of our success in the effort to improve our operating efficiency and in meeting our customers' demands with the most cost-effective and environmentally-sound resources available.

Other Information:

(Provide/attach additional information if necessary)